AN OPTICAL READER HAVING A COLOR IMAGER

CROSS-REFERENCE TO RELATED APPLICATIONS

This is a continuation of U.S. Patent Application Serial No. 09/904,697 filed on
7/13/01, the content of which is relied upon and incorporated herein by reference in its
entirety, and the benefit of priority under 35 U.S.C. §120 is hereby claimed.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates generally to optical readers, and particularly to
optical readers employing color imagers.

2. Technical Background

Optical indicia readers equipped to read one-dimensional or two-dimensional
bar code symbols are well known in the art. There are a number of optical character
recognition systems on the market as well. In addition, many financial institutions
today employ computer-driven signature capture systems. Many of these systems
employ monochrome imagers because monochrome imagers are well-suited to read
graphical symbols, such as bar codes, OCR symbols, or signatures.

On the other hand, the ability to provide image capture functionality along with
indicia reading in one device is very appealing. Currently, optical readers having image
capture functionality use monochrome imagers that provide gray scale images. While
such devices are useful, gray scale images are less desirable than color images for
viewing purposes. The public has come to expect color imaging. Further, monochrome
images are often less distinct and not as informative as color images.

Unfortunately, there are problems associated with using color imaging systems
to read graphical symbols. The first problem relates to the difficulty of distinguishing
bi-tonal indicia in a color image. Because color imagers provide more information that
bi-tonal indicia readers can use, color imaging data is often confusing to graphical
symbol indicia readers. One way to solve this problem is to convert the color imaging
data into gray-scale data. However, commercially available methods for converting
color images to gray-scale are too slow for high-volume scanning. Thus, an optical
reader employing a color imager with a gray scale converter would be slower and more